

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-13 (Canceled)

14. (Original) An apparatus for administering carbon monoxide to a patient, the apparatus comprising a delivering unit, a carbon monoxide source, a dosing unit for administering carbon monoxide to the patient, sensor means for determining the concentration of carbon monoxide in the blood, and control means for regulating the dosing unit depending on feedback from the sensor unit.

15. (Currently Amended) The apparatus according to claim 14, wherein the carbon monoxide source is a source providing pure carbon monoxide gas, optionally in a mixture or carbon monoxide gas in a mixture with at least one other gas one or more other gases, and wherein the dosing unit is for administering the carbon monoxide gas or the carbon monoxide containing gas mixture into the breathing gas mixture of a patient.

16. (Previously Presented) The apparatus according to claim 14 wherein the delivering unit is selected from the group consisting of a respirator, a ventilator, a face mask, and a nose cannula.

17. (Previously Presented) The apparatus according to claim 14 wherein the apparatus comprises at least two independently working sensor means for the determination of carbon monoxide in the blood.

18. (Previously Presented) The apparatus according to claim 14 wherein at least one of the sensor means is connected to an alarm unit.

19. (Canceled)

20. (Previously Presented) The apparatus according to claim 14 further comprising a filter unit through which the air expired by the patient is passed in order to remove excess carbon monoxide from the expired gas, wherein the filter is a physical or a chemical filter.

21. (Canceled)

22. (New) The apparatus of claim 14, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of carboxyhemoglobin (HbCO) in the blood.

23. (New) The apparatus of claim 14, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of oxyhemoglobin (HbO<sub>2</sub>) in the blood.

24. (New) The apparatus of claim 14, wherein the concentration of carbon monoxide in the blood is determined by measuring the activity of enzymes in the blood.

25. (New) The apparatus of claim 14, wherein the concentration of carbon monoxide in the blood is determined by measuring the CO content of the air expired by the patient.

26. (New) A method for administering carbon monoxide to a patient, comprising:  
(a) administering exogenous carbon monoxide to the patient;  
(b) determining the concentration of carbon monoxide in the patient's blood;

(c) comparing the actual concentration of carbon monoxide in the blood with a preset, desired value; and

(d) subsequently adjusting the amount of carbon monoxide delivered to the patient to obtain a concentration in the patient's blood corresponding to the preset desired value, wherein steps (a) through (d) are performed using the apparatus of claim 14.

27. (New) The method of claim 26, wherein steps (b) through (d) are repeated at least once.

28. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of carboxyhemoglobin (HbCO) in the blood.

29. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of oxyhemoglobin (HbO<sub>2</sub>) in the blood.

30. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the activity of enzymes in the blood.

31. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the CO content of the air expired by the patient.

32. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of HbCO in the blood by non-invasive measurement or from a blood sample.

33. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of HbO<sub>2</sub> in the blood by oxymetry.

34. (New) The method of claim 31, wherein measuring the carbon monoxide content of the expired air is performed spectroscopically or electrochemically.

35. (New) The method of claim 26, wherein the carbon monoxide is administered to a patient as a pure gas, in a gas mixture, dissolved in a fluid, or by administering a carbon monoxide donor.

36. (New) The method of claim 26, wherein the carbon monoxide is administered to the patient by inhalation, by insufflation, intravenously, or rectally.

37. (New) The method of claim 26, wherein the carbon monoxide is administered to a patient in a gas mixture by admixing it into the breathing air of a patient.

38. (New) The method of claim 26, wherein the carbon monoxide is delivered for inhalation in pulses, wherein the pulses are inspiration or expiration triggered.

39. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is controlled by the oxygen content of the breathing gas.

40. (New) The method of claim 26, wherein the administration of carbon monoxide is performed via sequences of pulses, wherein the number and length of the pulses in each sequence and/or the number of sequences is regulated depending on the determination of the concentration of carbon monoxide in the blood.

41. (New) The method of claim 26, wherein the patient is spontaneously breathing or artificially breathing.

42. (New) The method of claim 26, wherein the concentration of carbon monoxide in the blood is determined by at least two separate methods of measurement.

43. (New) A method for administering carbon monoxide to a patient, the method comprising:

- a) administering exogenous carbon monoxide to the patient by inhalation, wherein the carbon monoxide is delivered for inhalation in pulses triggered by inspiration, expiration or both;
- b) determining the concentration of carbon monoxide in the patient's blood;
- c) comparing the actual concentration of carbon monoxide in the blood with a preset, desired value; and
- d) subsequently adjusting the amount of carbon monoxide delivered to the patient to obtain a concentration in the patient's blood corresponding to the preset desired value.

44. (New) The method of claim 43, wherein steps (b) through (d) are repeated at least once.

45. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of carboxyhemoglobin (HbCO) in the blood

46. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of oxyhemoglobin (HbO<sub>2</sub>) in the blood.

47. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the activity of enzymes in the blood.

48. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the CO content of the air expired by the patient.

49. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of HbCO in the blood by non-invasive measurement or from a blood sample.

50. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by measuring the concentration of HbO<sub>2</sub> in the blood by oxymetry.

51. (New) The method of claim 43, wherein measuring the carbon monoxide content of the expired air is performed spectroscopically or electrochemically.

52. (New) The method of claim 43, wherein the carbon monoxide is administered to a patient in a gas mixture by admixing it into the breathing air of a patient.

53. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is controlled by the oxygen content of the breathing gas.

54. (New) The method of claim 43, wherein the administration of carbon monoxide is performed via sequences of pulses, wherein the number and length of the pulses in each sequence and/or the number of sequences is regulated depending on the determination of the concentration of carbon monoxide in the blood.

55. (New) The method of claim 43, wherein the patient is spontaneously breathing or artificially breathing.

56. (New) The method of claim 43, wherein the concentration of carbon monoxide in the blood is determined by at least two separate methods of measurement.